## REMARKS

Claims 1-7 and 11 are pending herein. Claims 8-10 were previously canceled.

Applicant has added new claim 11 to further clarify the configuration of the valve pin of the present invention. Support for new claim 11 can be found at Figs. 3-5, which clearly show the valve pin having a lower end the diameter of which corresponds with the diameter of an opening in the cavity and a narrow portion above the lower end and having a diameter less than the diameter of the lower end. The specification has also been amended to describe the configuration of the valve pin as shown in the drawing and as defined in new claim 11.

Claims 1-7 were rejected under §103(a) as being unpatentable over Giza (U.S. No. 4,959,000) in view of Dickson et al (U.S. No. 2,361,348). Reconsideration of this rejection is courteously solicited.

Giza teaches a injection mold for a golf ball cover with a plurality of retractable core pins that extend into the hemispherical mold cavity to help center the golf ball core, and a retractable gate pin on both the top and bottom poles of the hemispherical mold. As noted by the Examiner, the gate pins of Giza must be retracted into the mold half to allow thermoplastic material to flow into the cavity. After filling, the gate pins move to a closed position to allow the completed ball to form. Giza does not disclose a first position where the gate pin extends into the hemispherical mold so that thermoplastic material flows around this pin.

The Examiner contends that Dickson et al discloses this limitation, referring to Figs. 1 and 2. Applicant respectfully disagrees. Dickson discloses initially spacing the core in the cavity of the mold, to equalize the movement of the plungers. (Col. 5, line 45-46). Referring to Fig.1, it appears guide pin 23 must be lowered to allow material to flow through conduit 44. Applicant believes this is what is shown by the crescent moon shape in the cavity below the core 65.



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Furthermore, judging from Fig. 1, there does not appear to an opening in orifice 63 to allow thermoplastic to flow until pin 22 is removed. According to Dickson, col.2, lines 28-32, cover forming seems to be a multi-step process of partially forming the cover, then "completely molding the cover thereon." Thus, as the filling operation progresses, it appears pin 23 is first retracted as shown in Fig. 1, until the cover is partially formed. Next, it appears pin 22 is retracted to allow material to enter through orifice 63, while pin 23 is inserted to re-center the core. After the thermoplastic material enters the cavity, guide pins 22 and 23 appear to hold the ball while the thermoplastic cools, forming a gate. Otherwise, output channels 63 and 64 would contain cured thermoplastic material. The conical configuration of these channels would inhibit removal of the material when the ball is removed from the mold.

In claim 5, Dickson claims the pins holding the core are attached to slidable plungers and a "means for injecting molding material between the body and the cavity to form a molded cover; and means on said slidable plungers, complementing said cavity, to form the normal exterior of a cover on a body *when the slidable plungers are withdrawn from said body* and the separable dies are closed." Col. 11, lines 60-66. The pins are attached to the slidable plungers. Subsequent claims directed at the injection of cover material contain similar language. Applicant notes, however, that Dickson suggests that lower pin 23 may be lowered to form the bottom half of the ball without a hollow pin shaft. As noted above, Applicant is not sure how this result would be achieved in practice. In any event, it appears from a complete reading of the specification and claims that Dickson only envisioned injecting cover material while the pins were withdrawn from the body, as stated above. Applicant thus asserts that one skilled in the art would not find support for the Examiner's reading of Dickson.



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In contrast, the present invention allows material to flow while the pin is in a first position holding the core, as well as the second position extended into the mold half. The third position serves to seal off the cavity and form a dimple on the ball. This element of the present invention does not appear to be present in either Giza or Dickson.

Both the gate pin of Giza and of Dickson appear to be able to be positioned in either a retracted position (allowing material to enter the cavity) or a closed position, for the curing operation. Neither appear to allow thermoplastic material to flow around the pin when the pin is fully extended toward the cavity. (This feature of Applicant's invention is even more apparent from new claim 11 which defines the configuration of the valve pin which is not shown in Giza or Dickson.) If channels 63 and 64 of Dickson were redesigned to allow material to flow past guide pins 22 and 24, respectively, as the present invention permits, the resultant ball would contain vestiges or runners of cured thermoplastic material, which is not present in a ball made from the present invention as noted in the specification (page 7, lines 6-10).

Applicant contends that combining the teachings of Giza with the mold of Dickson as shown in Figs. 1 and 2, would not teach or suggest the subject matter of the present invention as a whole. Thus, the present invention when compared with the prior art, though analogous, is non-obvious. *See generally, ACS Hosp. Sys. v. Montefiore Hosp.* 221 U.S.P.Q. 929, 933 (1984). Giza improves upon Dickson by adding core pins to improve centering of the core, and by adding retractable gate valves that eliminate the hollow pin shafts in the completed ball. The present invention improves upon both Giza and Dickson, providing the desired centering of the core before filling the cavity, along with providing a complete ball cover without the hollow pin shafts of Dickson. The present invention also eliminates material vestiges after forming.



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For the foregoing reasons, Applicant respectfully requests reconsideration and withdraw of the rejection of claim 1.

The Examiner rejected claims 2-7, also under § 103(a), claiming the patent to Giza disclosed everything except "a heated manifold, retractable core pins that are equally spaced about the lower hemispherical cavity and have longitudinal axes arranged substantially perpendicular to parting lines defined where the cavities terminate at a surface of the plates, and a vent pin arranged in an opening in the lower plate." Although heated manifolds and retractable core pins as claimed are known in the thermoplastic injection mold art, claims 2-7 depend upon independent claim 1. No evidence of combining the heated manifold to the multi-positional valve gate of the present invention is disclosed or suggested by the prior art.

As discussed above, the Dickson invention does not appear to allow material to flow around the pin when the pin is extended into the cavity, as the present allows. Thus the core pins of Dickson is not suggestive of the core pins of the present invention in combination with the multi-positional valve pin. Using a multi-positional valve pin in combination with the core pins of Giza would not have been obvious to a person of ordinary skill in the art. Likewise, the valve pin is positioned to be opposite the material supply valve gate which is the essence of the present invention. This ensures uniform filling of the mold and eliminates any witness line or runner that may develop along a space between the plates.

Accordingly, reconsideration and withdrawal of the rejection of claims 1-7 under §103(a) are respectfully requested, and allowance of claims 1-7 and 11 is courteously solicited.



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Respectfully submitted,

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I hereby certify that this correspondence consisting of 11 pages (including the cover sheet) is being transmitted to GAU 1732 of the United States Patent and Trademark Office at facsimile number 703-872-9306 on **February 17, 2004**.

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